REMARKS

This application has been carefully reviewed in light of the Office Action mailed August 25, 2004. Claims 1-29 are pending in the Application and stand rejected. Claims 1, 14, and 26-29 have been amended. Applicants respectfully request reconsideration and favorable action of all pending claims in view of the following remarks.

Examiner Interview

Applicants note with appreciation the telephonic interview with Examiner Jamal on November 22, 2004, in which Applicants' representatives Charles Suh, David Wille, and Examiner Jamal discussed some of the differences between the pending claims and the cited art references. No agreement was reached, but Examiner Jamal requested a written response explaining why it would not be obvious to combine U.S. Patent 6,546,098 issued to Henderson (*"Henderson"*), U.S. Patent 5,539,805 issued to Bushue et al. (*"Bushue"*), and U.S. Patent 6,714,644 issued to Cohn, et al. (*"Cohn"*).

Rejections Under 35 U.S.C. § 103

Claims 1, 6-8, 11-14, 19-21, 24-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Henderson* in view of *Bushue*. Claims 29, 2-3, 15-16, 4-5, 17-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Henderson*, *Bushue*, and further in view of *Cohn*. Claims 9 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Henderson*, *Bushue*, and further in view of U.S. Patent 6,584,197 issued to Boudreaux Jr., et al. (*"Boudreaux"*). Claims 10 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Henderson*, *Bushue*, and further in view of U.S. Patent 6,757,382 issued to Wilkes, Jr., et al. (*"Wilkes"*). Applicants respectfully traverse these rejections for the reasons discussed below.

Claim 1 is allowable over both *Henderson* and *Bushue* because neither one of these references teaches or suggests "a processor . . . operable to . . . maintain the total instantaneous load below the determined threshold level by **shifting in time the respective peak voltages** of the first and second ring voltages," [emphasis added] as recited by Claim 1. In rejecting a previous version of Claim 1, the Examiner concedes that *Henderson* does not show maintaining a total ring signal load level below a particular threshold, but nevertheless asserts that it is shown in column 3, lines 5-20 and column 3, line 53 to column 4, line 27 of

Bushue. Regardless of whether this assertion is correct, *Bushue* fails to show shifting in time the respective peak voltages of the first and second ring voltages. For example, the identified portions of *Bushue* show using a DC reference signal rather than the AC sine wave reference signal to shape the ring voltage in order to reduce the level of draw on current load, and thus solving the under-voltage problem. (*See* column 3, line 63 through column 4, line 10, and FIGURES 4 and 5 of *Bushue*). Such a conversion from AC to DC does not involve time-shifting of peak voltages. In fact, such a conversion eliminates any peak voltages, so a "shifting" of peak voltages cannot be shown. Thus, as with *Henderson*, *Bushue* also does not show the missing limitation of Claim 1, and Claim 1 is allowable.

Applicants' dependent claims are allowable based on their dependence on the independent claim and further because they recite numerous additional patentable distinctions over the cited reference of the rejection. Because Applicants believe they have amply demonstrated the allowability of the independent claim over the cited reference of the rejection, and to avoid burdening the record, Applicants have not provided additional detailed remarks concerning these dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

For reasons analogous to those provided in conjunction with Claim 1, independent Claims 14, 26, 27, and 28 are also allowable. Applicants respectfully request reconsideration and allowance of independent Claims 1, 14, 26, 27, and 28, together with their dependent claims.

Claim 29 is allowable because none of the references in the proposed *Henderson-Bushue-Cohn* combination teaches or suggests "a processor . . . operable to . . . determine whether a total load placed on the first and second telephone lines exceeds a threshold load; transmit a first instruction instructing the second interface to allow a simultaneous generation of the first and second ring voltages on the telephone when the total load placed on the telephone lines does not exceed the threshold load; transmit a second instruction instructing the second interface to stagger a generation of the first and second ring voltages when the total load placed on the telephone lines exceeds the threshold load; and switch between the transmissions of the first and second instructions based on the determination," as recited by Claim 29. In rejecting a previous version of Claim 29, the Examiner concedes that neither *Henderson* nor *Bushue* shows the staggering of multiple ring signals, but nevertheless asserts that column 2, line 10 through column 3, line 12 of *Cohn* teaches "a ring staggering function," and that it would have been obvious to combine *Cohn* with *Henderson* and *Bushue*

"for the purpose of maintaining the reduced power draw of the NID and providing true AC ring signals . . . to those customers in an under-voltage situation that do not always require simultaneous signaling." In short, the Examiner appears to argue that the motivation to combine the cited references is the improvement of the ring tone of *Bushue* by providing "a true AC ring signal" rather than a steady-state DC ring signal.

The Examiner's asserted motivation to make the proposed combination is incorrect because staggering the ring signals during an under-voltage condition of *Bushue* provides no perceivable improvement to a ring tone resulting from the ring signals. *Bushue*'s invention is directed to preventing a shutdown of a subscriber interface unit (SIU) in an under-voltage condition by reshaping AC ring voltage into steady-state DC ring voltage when an under-voltage condition is detected. As described in column 4, lines 4-14 of *Bushue*, transmitting DC ring voltage rather than AC ring voltage results in a reduced use of current - thus solving the under-voltage problem - and allows the SIU to continue to detect an "off hook" condition of a telephone through the use of the DC ring voltage. One side effect of using the DC ring voltage is that the ringing functionality is no longer provided. However, the interruption of the ringing service is negligible in *Bushue* and thus tolerable because the under-voltage condition for which *Bushue* is designed is very brief - between 20-100 milliseconds. (*See* column 4, lines 15-20, which states ". . . the DC voltage reference signal is employed in lieu of the AC sine wave for a predetermined time interval, preferably at least 20 ms and no more than 100 ms, to allow proper restoration of the SIU operating voltage level, while minimizing audible ringing signal loss to subscribers.")

In light of the relatively short duration of an under-voltage condition (20-100 milliseconds) for which *Bushue*'s device was intended, modifying *Bushue* as proposed by the Office Action to stagger the ring signals during the under-voltage time period would provide no perceivable improvement in the ring tone sounded for a subscriber. Even in the best case scenario of an under-voltage condition that lasts for 100 milliseconds, staggering multiple ring signals within that time period would mean that each ring signal has only a fraction of the 100-millisecond time period to take effect at a telephone, and the mechanical device that sounds the ring - a piezoelectric ringer or a speaker - is likely to be unable to implement such a short signal in the course of sounding a ring tone in a way that would be perceived by a subscriber. Even if it could, a subscriber is not likely to be able to appreciate the difference between a ring tone that includes a silent 100-millisecond time block and a ring tone that includes a discernable sound of a staggered ring tone during some portion of the same 100-

millisecond time block. Thus, the ring tone resulting from the device of *Bushue* would have no perceivable improvement even if the ring signals were staggered during the under-voltage conditions as proposed by the Office Action. In view of this apparent lack of improvement in the device of *Bushue*, Applicants respectfully submit that one skilled in the art would lack the motivation to make the proposed combination and needlessly complicate the circuitry of *Bushue*. Due to this lack of motivation, the proposed *Henderson-Bushue-Cohn* combination is improper and Claim 29 is allowable. Favorable action is requested.

CONCLUSION

Applicants have now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other apparent reasons, Applicants respectfully request allowance of all pending claims.

If the Examiner feels that prosecution of the present Application may be advanced in any way by a telephone conference, the Examiner is invited to contact the undersigned attorney at 214-953-6486.

A check for $120.00 is enclosed to cover the fee for a one-month extension. Applicants believe that no other fees are due. However, the Commissioner is hereby authorized to charge these fees and any extra fee or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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